



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Herman Volkers, et al.

Examiner: Unassigned

Serial No.: 10/005,371

Group Art Unit: Unassigned

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Docket: 570-21 CPA/CON

For: APPLICATIONS WITH AND
METHODS FOR PRODUCING
SELECTED INTERSTRAND
CROSS-LINKS IN NUCLEIC
ACIDS

Dated: August 21, 2002

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on August 21, 2002
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SECOND PRELIMINARY AMENDMENT

Sir:

Prior to examination on the merits, please amend the above-identified application as follows:

IN THE SPECIFICATION:

At page 1, replace the paragraph beginning at line 3 with the following:

The invention lies in the field of nucleic acid cross-linking and uses thereof. More specifically the invention relates to methods for producing selected interstrand cross-links in nucleic acids and uses thereof. One important aspect of the invention relates to the use of selected interstrand cross-links for the selective amplification of certain nucleic acids in an amplification reaction.

Replace the paragraph bridging pages 1 and 2 with the following:

Many different compounds have been identified that possess nucleic acid cross-linking activity. Cross-linking of nucleic acids is most commonly used for therapeutic purposes in the intervention with proliferative disorders such as cancer. Most cross-linking agents cross-link nucleic acids in very specific ways and on specific places in nucleic acids. However, the frequency of these specific places in most nucleic acids are so high that effectively the cross-links are provided throughout the nucleic acid molecules. For the use of these cross-linking compounds in the intervention of cancer this so-called apparently random cross-linking activity does not prevent some kind of therapeutic effect. However, in the ideal situation cross-links would only be applied in the nucleic acid of the cells of which the proliferation should be interfered with. For instance by applying cross-links only to those nucleic acids involved in the transformation of said cell, i.e. the oncogenes or the RNA of said oncogenes. Such specificity was not possible with the current methods of cross-linking. The apparent random cross-linking activity of cross-linking agents also prevents the use of these compounds in assays that require more specific cross-linking. In one aspect the invention provides a method for producing cross-links in selected regions of a nucleic acid. In one aspect said method may be used to prevent at least in part, certain regions in a nucleic acid from taking part in a process such as, but not limited to, a process comprising a hybridisation or an amplification or both. In one aspect said method of producing selected interstrand cross-links is used in a process for producing a probe deprived at least in part of repetitive sequences. Such a probe is useful for the detection of for example nucleic acid sequences in chromosome painting in the field of cytogenetics.

At page 11, replace the paragraph beginning at line 6 with the following:

Some labelled chromosomes or parts thereof may be used for the typing of a chromosome and/or cell or for the identification of a disease.